Knowledge Regarding Hypothyroidism and Its Effect on Reproductive Health Among Young Females

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***Abstract*—Background: Thyroid disorders are among the most prevalent medical conditions worldwide, with hypothyroidism being particularly common. It occurs when thyroid gland fails to produce sufficient hormones to meet the body's physiological needs. Despite its significant impact on reproductive health, awareness of this condition among young females remains limited. Thyroid disorders constitute a major public health problem worldwide, with a higher prevalence among women. Globally, thyroid disorders affect approximately 200 million individuals. Women are more commonly affected than men, with prevalence rates reported to be 8–10 times higher. Hypothyroidism is the most frequently occurring thyroid disorder among females of reproductive age. In India, thyroid disorders are highly prevalent due to factors such as iodine deficiency and autoimmune conditions. Epidemiological studies indicate that the prevalence of hypothyroidism in India is approximately 11%, which is considerably higher when compared to Western countries, where prevalence ranges between 4% and 5%. Among women aged 18–25 years, the prevalence of subclinical hypothyroidism is estimated to range from 9% to 13%. Objectives: The studies were multifaceted, encompassing the evaluation of assess the level of knowledge regarding hypothyroidism and it's effect on reproductive health among young females , find the association between the level of knowledge regarding hypothyroidism and its effects on reproductive health among young females with their selected demographic variables and develop and distribute an information booklet regarding hypothyroidism and it's effect on reproductive health among young females.**

Methodology: A descriptive study was carried out among 60 young females to evaluate the knowledge regarding hypothyroidism and its effect on reproductive health among young females in St Mary's college, Thrissur. Convenient sampling technique was used to enroll the young females who met inclusion criteria. A structured knowledge questionnaire was to assess the knowledge level of samples. Data were analysed using descriptive and inferential statistics with SPSS software.

Result: The findings of the study were illuminating, revealing knowledge gap among participants among 60 students, 7(12%) had inadequate knowledge about hypothyroidism whereas 28(46%) has moderate knowledge and 25(42%) had adequate knowledge regarding hypothyroidism and its effect on reproductive health among young females.

Conclusion: The findings highlight the need for focused health education and awareness programmes to improve knowledge regarding hypothyroidism and its effect on reproductive health among young females.

***Index Terms*—young females, hypothyroidism, knowledge, reproductive health.**

I.INTRODUCTION

Hypothyroidism is a condition in which the thyroid gland does not produce sufficient thyroid hormones to meet the body's requirements. It is one of the most common endocrine disorders and is more frequently observed among women than men. Common symptoms include fatigue, weight gain, cold intolerance, dry skin, constipation, and menstrual disturbances. Thyroid hormones play a significant role in maintaining normal female reproductive function. Hypothyroidism can affect the hypothalamic–pituitary–ovarian axis and interfere with normal hormonal regulation. This may lead to menstrual irregularities, including heavy menstrual bleeding, irregular periods, and infrequent menstruation. In some cases, untreated hypothyroidism may contribute to ovulatory dysfunction and fertility problems. Hypothyroidism during pregnancy may also increase the risk of complications, particularly when the

condition remains undiagnosed or inadequately treated. Early identification, appropriate treatment, and regular monitoring of thyroid function are therefore important for maintaining reproductive health. Young females are at an important stage of physical, psychological, and reproductive development. However, a lack of awareness regarding the symptoms, causes, complications, diagnosis, and management of hypothyroidism may prevent them from seeking timely medical attention. Knowledge regarding hypothyroidism and its effect on reproductive health helps young females recognize warning signs, understand the importance of thyroid function testing when indicated, and seek appropriate healthcare. Health education programmes can play an important role in improving awareness and promoting healthy practices. Therefore, assessing the level of knowledge regarding hypothyroidism and its effect on reproductive health among young females is essential to identify existing knowledge gaps and develop appropriate educational interventions. The present study aims to assess the knowledge regarding hypothyroidism and its effect on reproductive health among young females in a selected college in Thrissur. The findings may help identify areas requiring additional health education and support the development of an information booklet to improve awareness among young females.

II.METHODS

A descriptive survey design was adopted to assess the knowledge regarding hypothyroidism and its effect on reproductive health among young females. The study was conducted at St. Mary's College, Thrissur District, Kerala.

The objectives of the study were (1) to assess the level of knowledge regarding hypothyroidism and its effect on reproductive health among young females, (2) to find the association between the level of knowledge and selected demographic variables, and (3) to prepare and provide informational booklet regarding hypothyroidism and its effect on reproductive health.

The study adopted a quantitative research approach. A non-probability convenience sampling technique was used to select 60 young female students studying B. Com at St. Mary's College, Thrissur. The inclusion criteria were young females aged 19–25 years who were willing to participate and available during the period of data collection. Young females who were unwilling to participate, unavailable during data collection, or outside the specified age group were excluded from the study.

The data collection tool consisted of two sections. The first section included demographic data such as age, area of residence, type of family, diet pattern, menstrual pattern, source of health information, family history of thyroid disorder, and history of hypothyroidism.

The second section consisted of a structured knowledge assessment questionnaire containing 25 multiple-choice questions regarding hypothyroidism and its effect on reproductive health

The questions were closed-ended multiple-choice questions, each containing four alternative responses, of which one was correct and three were distractors. Each correct response was awarded one mark, while an incorrect or unanswered question was awarded zero. The maximum score was 25 and the minimum score was zero. A higher score indicated a higher level of knowledge regarding hypothyroidism and its effect on reproductive health.

THE INTERPRETATION OF KNOWLEDGE LEVEL

Sl. No	Score Range	Level Of Knowledge	Percentage
1	0-8	0-32%	Inadequate knowledge
2	10-17	33-67%	Moderate knowledge
3	18-25	68-100%	Adequate knowledge

The study was approved by the institutional ethical committee, and permission was obtained from the concerned authorities. The research tool was developed by the investigator after reviewing relevant literature, considering the objectives of the study, and consulting expert opinions. Content validity was established by submitting the tool to an expert in Obstetrics and Gynaecology Nursing. Minor modifications were made according to the expert's suggestions and recommendations.

Data collection was carried out over five days, from 03/03/2026 to 07/03/2026, among 60 young female students at St. Mary's College, Thrissur. The investigator explained the purpose and significance of the study to the participants and obtained their verbal

consent. Confidentiality was assured, participation was voluntary, and the participants were informed of their right to withdraw from the study at any time. The structured questionnaire was administered to collect demographic information and assess knowledge regarding hypothyroidism and its effect on reproductive health. After data collection, an informational booklet on hypothyroidism and its effect on reproductive health was distributed to the participants.

The collected data were planned to be analysed using descriptive and inferential statistics. Frequency and percentage distributions were used to analyse demographic variables and the level of knowledge among young females. The association between the level of knowledge and selected demographic variables was assessed using the Chi-square test.

III. RESULTS

SECTION A:DATA ON DEMOGRAPHIC VARIABLES INCLUDES:

- On the basis of age, 14 (23%) belonged to the age group of 19–20 years, 43 (72%) belonged to the age group of 21–22 years, and 3 (5%) belonged to the age group above 22 years
- Regarding the type of family, 55 (92%) belonged to nuclear families, 5 (8%) belonged to joint families, and none (0%) belonged to extended families.
- Regarding the area of residence, 43 (72%) belonged to rural areas and 17 (28%) belonged to urban areas.
- Regarding dietary pattern, 7 (12%) followed a vegetarian diet and 53 (88%) followed a non-vegetarian diet.
- Regarding menstrual pattern, 41 (68%) had regular menstruation, 18 (30%) had irregular menstruation, and 1 (2%) had no menstruation.
- Regarding the source of health information, 21 (35%) received information from health professionals, 25 (42%) from social media, 2 (3%) from peer groups, and 12 (20%) from other sources.
- Regarding family history of thyroid disorder, 13 (22%) had a family history of thyroid disorder, whereas 47 (78%) had no family history.
- Regarding the diagnosis of hypothyroidism, 6 (10%) had been diagnosed with hypothyroidism, whereas 54 (90%) had not been diagnosed.

SECTION B Data on level of knowledge of the young females regarding hypothyroidism and its effect on reproductive health:

TABLE 1: FREQUENCY AND PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE AMONG YOUNG FEMALES

Sl. No	Level Of Knowledge	Score Range	Frequency	Percentage
1	Inadequate	0-08	7	12
2	Moderate	10-17	28	46
3	Adequate	18-25	25	42

The table (1) reveals the frequency and percentage distribution of the young females according to the level of knowledge. Out of 60 samples, with regard to level of knowledge 7(12%) has inadequate knowledge ,28(46%) has moderate knowledge,25(45%) has adequate knowledge.

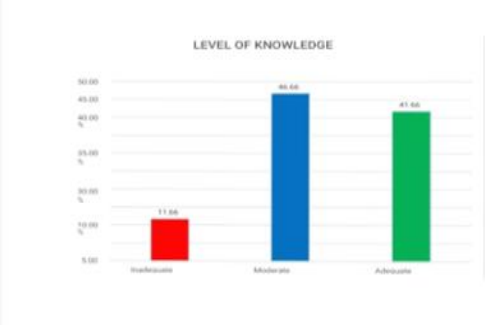


Figure1: Percentage of young females to Their Level of Knowledge Regarding hypothyroidism and its effect on reproductive health.

SECTION C: Data on association of knowledge on hypothyroidism and its effect on reproductive health with their selected demographic variables.
Chi square calculated value of age, type of family, area of residence, dietary pattern, menstrual pattern, source of health information, family history of thyroid disorder, and diagnosis of hypothyroidism.

IV. DISCUSSION

The discussion is based on the objectives of the study. The first objective is to assess the level of knowledge regarding hypothyroidism and its effect on reproductive health among young females. The current study revealed that among 60 students, 7 (11.7%) had inadequate knowledge, 28 (46.7%) had moderate

knowledge, and 25 (41.7%) had adequate knowledge regarding hypothyroidism and its effect on reproductive health. The findings indicate that the majority of the participants had moderate knowledge, followed by adequate knowledge, while a smaller proportion had inadequate knowledge. These findings emphasize the need to improve awareness regarding hypothyroidism and its effects on reproductive health among young females.

The second objective is to find out the association between the level of knowledge regarding hypothyroidism and its effect on reproductive health among young females with their selected demographic variables. The present study findings revealed that there was no significant association between the level of knowledge regarding hypothyroidism and its effect on reproductive health among young females and their selected demographic variables. This indicates that the selected demographic variables were not significantly associated with the knowledge level of the participants regarding hypothyroidism and its effects on reproductive health.

The third objective is to prepare and provide an informational booklet regarding hypothyroidism and its effect on reproductive health to young females.

The distribution of the informational booklet is intended to improve the knowledge of young females regarding hypothyroidism and its effects on reproductive health. The informational booklet contains hypothyroidism and its causes, risk factors, signs and symptoms, effects on reproduction, menstruation and pregnancy, diagnosis, management, prevention and complications.

V. CONCLUSION

Hypothyroidism is a public health concern worldwide. It has high prevalence mainly in India due to its effects on reproductive system of females. Its effect is manifested as menstrual irregularities, delayed puberty, fertility issues and hormonal imbalances. Early diagnosis, appropriate treatment and regular monitoring of hypothyroidism can improve menstrual health, fertility, pregnancy outcomes and overall reproductive health of women.

The result shows that among 60 students' 7(12%) had inadequate knowledge about hypothyroidism whereas 28 (46%) has moderate knowledge and 25 (42%) had adequate knowledge.

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